2023

Perceived destination image cohesion: A comparison study of attractions on the grand canal, China

Shan Jiang

Noel Scott
Edith Cowan University

Li Tao

Shiqi Xiong

Yuan Qin

10.3390/su151813682

Jiang, S., Scott, N., Tao, L., Xiong, S., & Qin, Y. (2023). Perceived destination image cohesion: A comparison study of attractions on the grand canal, China. Sustainability, 15(18), article 13682. https://doi.org/10.3390/su151813682

sustainability

MDPI

Article

Perceived Destination Image Cohesion: A Comparison Study of Attractions on the Grand Canal, China

Shan Jiang [1], Noel Scott [2,3], Li Tao [1,*], Shiqi Xiong [1] and Yuan Qin [4]

[1] College of Resource Environment and Tourism, Capital Research Institute of Tourism, Capital Normal University, Beijing 100048, China; jiangshan@cnu.edu.cn (S.J.); 6373@cnu.edu.cn (S.X.)
[2] Sustainable Research Centre, University of the Sunshine Coast, 90 Sippy Downs Dr, Sippy Downs, QLD 4556, Australia; nscott1@usc.edu.au
[3] School of Business and Law, Edith Cowan University, 270 Joondalup Drive, Joondalup, WA 6027, Australia
[4] Department of Tourism, Otago Business School, University of Otago, P.O. Box 56, Dunedin 9054, New Zealand; yuan.qin@postgrad.otago.ac.nz
* Correspondence: 6222@cnu.edu.cn

Abstract: The Grand Canal is located in the north-eastern and central-eastern plains of China, running from Beijing in the north to Zhejiang province in the south, and is the longest canal in the world (1800 km) and a UNESCO World Heritage Site. From a tourism perspective, the Grand Canal can be considered as a linear heritage attraction linking many individual heritage sites. This research was conducted with a mixed qualitative–quantitative method in the 2021–2022 period. First, in-depth interviews with an unstructured methodology of image measurements were conducted to determine attributes of the perceived destination image (PDI) of the Grand Canal as a whole. Next, a measurement scale was developed using these attributes to examine the PDI of two canal sites near Beijing. A total of 274 valid questionnaires were used for data analysis. The results identify differences between the two sites' PDI and the overall image of the Grand Canal. The *t*-test results shows that, in terms of the CDI, Shichahai Park has much better tourism activities, while Tongzhou Canal Park has better water quality. Shichahai Park's ADI provides a stronger image of pride/impressive heritage of the Tongzhou Canal Park. Based on these results, a marketing strategy is proposed and discussed. This is the first study to develop a method and measurement scale to examine cohesion in the PDI of linear heritage attractions. The method may be used by other linear heritage management practitioners to link their attractions.

Keywords: attributes; Grand Canal; heritage attractions; perceived destination image; linear destination; image cohesion

Citation: Jiang, S.; Scott, N.; Tao, L.; Xiong, S.; Qin, Y. Perceived Destination Image Cohesion: A Comparison Study of Attractions on the Grand Canal, China. *Sustainability* **2023**, *15*, 13682. https://doi.org/10.3390/su151813682

Academic Editors: Jovana Brankov, Ana Milanović Pešić and Claudete Oliveira Moreira

Received: 1 August 2023
Revised: 7 September 2023
Accepted: 7 September 2023
Published: 13 September 2023

1. Introduction

Canals and waterways are linear tourism destinations that face the challenge of structuring a cohesive destination image. While perceived destination image (PDI) research is a well-established domain in the field of destination marketing, and the previous literature on destination image have provided a different conceptual framework and measurement scale [1], there is a lack of discussion on the integration of different attractions into a cohesive image, nor has it been studied how the overall PDI of a linear heritage attraction can add value to individual attractions through joint promotional actions. Further, even in a tourism region characterized by the coexistence of several attractions, little research has been carried out on the critical issue of PDI differences amongst attractions. This area is important as designing a sub-PDI strategy requires balancing the overall PDI and a set of independent sub-PDIs with distinct positioning. In brief, the PDI of linear heritage sites remains an under-explored phenomenon.

Some previous researchers have shown their interest in and emphasize the Grand Canal's destination image. For example, one researcher analysed the Grand Canal's overall

image based on online travel data [2]; another researcher studied the specific region's destination image of the Grand Canal in the Zhenjiang section [3]. To our knowledge, there is no research examining how the perceived destination image (PDI) of different attractions fits into the overall destination image. Therefore, the purpose of this study is to develop a method to link the Grand Canal's overall PDI and its individual attractions together. This study then explores the benefits and challenges of using the results in a promotional strategy. This research intent is to first develop a PDI measurement scale of PDI on the linear heritage attraction; second, to explore the cognitive and affective attributes of tourists' overall PDI and the PDI of two sites along it; and third, to identify the differences between the two sites' PDIs and the overall image of the Grand Canal. Based on these results, a marketing strategy is proposed and discussed.

2. Theoretical Background

2.1. Linear Heritage Tourism

Linear attractions, such as a cultural route or themed highway, have a start and end point, a considerable length, and a limited width. This type of attraction may pass through multiple administrative and geographical regions. Heritage-themed linear attractions link tangible and intangible cultural heritage sites within a limited linear or strip-shaped area, but they can also exert far-reaching influences on their surroundings. Research into such extended linear heritage tourism resources is limited. In the early 21st century, one example in Europe [4] discussed the capacity of linear itineraries to bring about cross-boundary dialogue and interaction. In the USA, Telfer [5] investigated the strategic alliances forming along the Niagara Wine Route and proposed the importance of maintaining successful strategic alliances. In Australia, the Queensland Heritage Trails Network was designed to stimulate rural heritage tourism [6].

In recent years, some similar studies have examined the geographical connectivity of various types of linear attractions. Xu et al. [7] identified six geospatial and tourism attributes of nine wine trails in North Carolina (USA) and found good accessibility among wine trails, but they low shared connectivity. A study of the pilgrimage trail in Santiago de Compostela, Spain [8] emphasized the importance of linking the diverse attractions into a cohesive tourism experience. Marković et al. in their research also discussed the development of sport events on the River Drina and noted that further tourism development needs good cooperation with the local population [9]. This requires the strengthening of synergies between agents involved in the tourism sector. After all, it is the government's role to provide people with fair, immediate, and future access to resources and to achieve prosperity [10]. It is important to understand important factors in preserving the tradition of heritage during sustainable development [11]. This current study examines how to develop such synergy along the heritage attractions of China's Grand Canal.

2.2. Perceived Destination Image

A destination's image is defined as a composite of various products (attractions) and attributes woven into a total impression in a tourist's mind [12]. It is the sum of beliefs, ideas, and impressions that people have of a destination [13]. However, there is much debate about how to measure the image of a destination or attraction. The concept of image thereof has been a "stumbling block" [14] and is described as an elusive and confusing construct [14,15]. A perceived tourism image is the cognitive and affective evaluation of various elements of a tourism destination, which is formed from direct and indirect information received by potential tourists [16]. There is no general scale for the measurement of cognitive images, but the cognitive–affective overall image model developed by Baloglu and McCleary [17] has been used to provide the dimension of a tourism image. In another study, a perceived tourism image was proposed including components of cognitive, affective, and personality dimensions [18].

The cognitive component is the sum of beliefs and the individual's evaluations of destination attributes [19]. Some indicators used to measure cognitive image include com-

fort/security, interest/adventure, natural state, tourist facilities, resort atmosphere/climate, cultural distance, price level, and communication channels [20]. Recently, a four-level destination image was proposed, including individual-landscape layer, compound-atmosphere layer, dual-factor layer, and overall-image layer [21].

The affective component of destination image refers to the value the individuals place on destinations based on the travel benefits (motives) they seek [22]. It is 'the expression of all objective knowledge, impressions, prejudice, imaginations and emotional thoughts an individual or group might have of a particular place' [23]. It is noted that affective elements are interrelated with cognitive elements and are largely dependent on cognition [17], at the same time could influence their psychology engagement and brand loyalty [24]. However, the affective component was mixed into the cognitive element of the destination image. In fact, it should be independently considered to better understand how people evaluate environments or places.

Echtner and Ritchie [20] presented a conceptual framework using an unstructured methodology of destination image measurement. The destination image was described by defining and dividing three continuums: attribute-holistic, functional-psychological, and common-unique. This current research will apply Echtner and Ritchie's conceptual framework and three open-ended questions to explore the holistic and unique components of destination image [20,25].

2.3. PDI Fit and Cohesion

An attractive image encourages tourist visitation [26]. In marketing, "fit" refers to the degree of similarity between a product category and existing products affiliated with the brand [27]. Perceived destination image fit here refers to the PDI of a particular attraction and the overall PDI of the linear attraction sharing attributes. PDI fit is important because it increases the positive value of a brand [28]. "Fit" is key for a linear heritage site in assessing the PDI of all attractions and is used to examine the cohesion between overall and individual attraction PDI. Moreover, PDI fit can lead to positive spillover evaluations of the overall destination image on the linear heritage.

This current research proposed that PDI fit is the specific means to achieve the destination image cohesion of the Grand Canal. Cohesion is a measure of the subgroups within a social network [29]. Cohesion in the marketing of destination image provides the implication as to what destination associations are complementary to each other [30]. In this current study, the cohesion is regarded as the term to describe the degree of PDI fit. The measurement of PDI cohesion between the overall image of a linear heritage such as the Grand Canal and its multiple sections (i.e., attractions on the Grand Canal) can help to develop the strategic organization of linear heritage destination images to avoid internal competition and achieve synergies. At the same time, it could provide a multiplier effect that adds even more value to each attraction within the linear heritage system. In summary, a cohesive PDI reinforces the PDI of the individual heritage sites, making the design of better marketing strategies possible. This leads to a more appropriate positioning of a tourism destination. A hypothesis was developed as the following:

H1. *There is significant difference between Shichahai Park and Tongzhou Canal Park on tourists' PDI.*

3. Methodology

3.1. The Grand Canal and Research Sites

The Beijing-Hangzhou Grand Canal was built in the 7th century CE (Sui dynasty) and, at 1800 km, is the world's longest constructed waterway (Figure 1). The Grand Canal was developed to move agricultural produce to Beijing and provide interaction and communication across a geographic area with regional variations and characteristics. The Grand Canal today is an important cultural heritage, tourism resource, and UNESCO World Heritage site. For the tourism sector, the development of the Grand Canal provides many

opportunities for material and non-material cultural heritage activities and attractions, as well as new challenges in the organization, access, interpretation, and marketing of this linear area [31].

Figure 1. Map of the Beijing-Hangzhou Grand Canal. Source: Shanghai Daily, (2017), 22 August (https://www.shine.cn/feature/art-culture/1708222604/ (accessed on 21 August 2023)).

There are two research sites (Figure 2). Shichahai Park is located close to the Forbidden City and was originally a pier at the northern end of the Grand Canal. It has become an important cultural heritage attraction in Beijing. The main tangible cultural heritage attractions of the park related to the Grand Canal are Jishui Tan Pool and Wanning Qiao Bridge. In the last 20 years, this area is increasing in popularity for nightlife and bars.

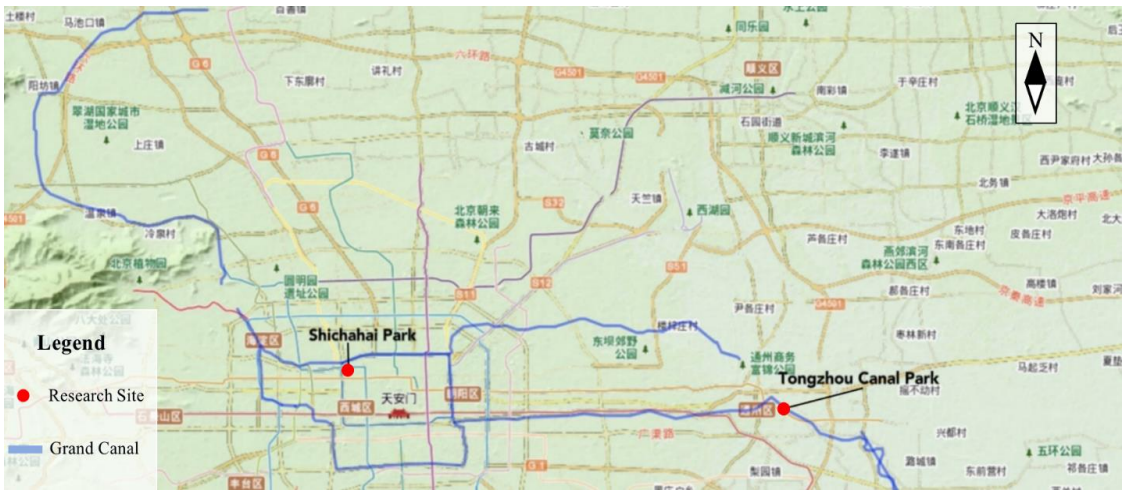

Figure 2. The location of two research sites. Source: Grand Canal HGIS (historical geographic information system) Big Data and Service Platform. (http://www.gchgis.com/CanalMap/index.html (accessed on 18 June 2022)).

Tongzhou Canal Park is located on the North Canal of Tongzhou District, Beijing. A 'green' island was built in this park and opened freely to the public. The island provides entertainment, education, sports, water recreation, and sightseeing.

3.2. Qualitative Research Component

This research used unstructured qualitative interviews to capture the unique and holistic components of the Grand Canal. Three open-ended questions were used to measure the holistic and unique components of destination image [20], as shown in Table 1. Answers to Question One mapped the perceived individual and holistic attributes of destination image; Question Two captured the holistic psychological characteristics such as its atmosphere or mood; Question Three was used to understand the unique attraction of the destination from the perspective of the respondents, including both unique events (functional characteristics) and distinctive atmosphere (psychological characteristics).

Table 1. Open-ended questions for unstructured methodology of image measurement.

	Open-Ended Questions	
Echtner and Ritchie (1993) [20]	1.	What images or characteristics come to mind when you think of the studied destination as a vacation destination? Please list 1 or 2 items.
	2.	How would you describe the atmosphere or mood that you would expect to experience while visiting the studied destination?
	3.	Please list any distinctive or unique attractions that you can think of in the studied destination.
This study	1.	What images or characteristics come to mind when you think of the Grand Canal as a place to visit?
	2.	Please describe in three words the atmosphere or mood that the Grand Canal gives you.
	3.	Please list any distinctive or unique tourist attractions that you can think of in the Grand Canal?

A pre-test in was conducted with 12 potential and experienced visitors to the Grand Canal. The interview outline was then adjusted and improved based on the pre-test results.

3.2.1. Data Collection

Formal in-depth interviews were conducted in Shichahai Park and Tongzhou Canal Forest Park. The researcher randomly selected visitors to the two attractions during the summer of the year 2021, interviews were audio recorded with the permission of the interviewees, and fieldwork notes were taken. A total of 89 tourists were interviewed, 45 in Shichahai Park and 44 in Tongzhou Canal Forest Park. The following is the demographic profile of the respondents (Table 2).

A content analysis was used to identify the dimensions of the cognitive and affective image of the Grand Canal. A content analysis requires that the researcher can analyse and simplify the data and form categories that reflect the subject of study in a reliable manner [32]. The first phase of the content analysis was descriptive Open Coding [33]. This was performed using a constant comparative analysis of the transcripts and notes. After multiple reviews, ten main themes were identified by the researchers and coded using NVivo 12. Next, Axial Coding was applied to reassemble the large amounts of open coded data into more abstract conceptual categories [34]. In this process, sub-themes were combined into themes and both the themes and sub-themes were validated by comparing the information provided by different respondents, along with data gleaned through observations and analyses of secondary documents.

Table 2. Respondents' demographic profile of the in-depth interviews.

Characteristics	Frequency	Characteristics	Frequency
Gender		Education	
Male	48	Junior high school degree and below	18
Female	41	High school degree	4
Age		College degree	2
Below 18	10	Bachelor's degree	48
18–24	34	Master's degree and above	17
25–44	34	Occupation	
45–64	8	Student	35
Above 65	3	Enterprise personnel	17
Location		Company staff	12
Beijing	34	Not working	6
Hubei	26	Self-employed	5
Guangdong	5	Retired	5
Zhejiang	3	Teacher	4
Hebei	2	Institutional staff	4
Shanxi	2	Farmer	1
Others	17		

3.2.2. Reliability

A consensual coding approach was applied to minimize coding differences. To ensure the reliability and validity of data analysis, during the coding process, the first and fourth author highlighted sub-themes by reviewing the transcript of the interviews and reached an agreement on how to place the sub-themes under the main themes. When the two coders disagreed, the third author was called upon to express her opinion. All of the authors reviewed the subthemes that had not been coded in the previous step. A comparison of the coding results indicated an intercoder agreement of approximately 89%. A consensual coding approach was then applied to minimize coding differences.

Next, the above process was validated by comparing the information provided by different respondents and then further comparison of the information obtained from the interviews with data gleaned through observations and analyses of secondary documents [35]. Finally, a check of the English version was conducted to ensure an accurate translation from Chinese to English. The content codes were translated into English by the first and fourth authors independently and then back translated into Chinese by the fifth author to ensure an accurate translation from Chinese to English.

3.3. Quantitative Research

Questionnaire Development and Data Collection

To develop the PDI measures for attractions of Grand Canal, we evaluated the themes and sub-themes, removing all proper names connected to the Grand Canal but outside the two research sites. In total, there are 25 measurement items under seven categories. A pre-test was conducted to ensure the measurement validity of the questionnaire. Ten experienced tourists who had visited Tongzhou Canal Park or Shichahai Park completed the questionnaire and then were interviewed to provide feedback and improve the questionnaire's wording. The Social/Ecological/Tourism Environment measures were combined into one measurement and the wording of several questions was amended.

Tourists visiting the two attractions were randomly selected and invited to complete the questionnaire in October 2022. A total of 310 questionnaires were distributed and 274 completed valid forms were used for data analysis. The demographic profile of respondents is shown in Table 3. The respondents were predominantly young or middle-aged, and students. There were a little more females (52.9%) than males (47.1%). The respondents held a bachelor's degree (45.6%) or above (27%). Most respondents were students from Beijing (53.3%) and its surrounding areas.

Table 3. Demographic profile of respondents.

Characteristics	Frequency	%	Characteristics	Frequency	%
Gender			Education		
Male	129	47.1	Middle school degree and below	12	4.4
Female	145	52.9	High school degree	23	8.4
Age			College degree	40	14.6
Below 14	1	4.0	Bachelor's degree	125	45.6
15–24	76	27.7	Master's degree and above	74	27.0
25–44	131	47.8	Occupation		
45–64	43	15.7	Student	81	29.6
Above 65	23	8.4	Business staff	45	16.4
Residence			Government & institute	42	15.3
Beijing	146	53.3	Retired	32	11.7
Hebei	22	8.0	Freelance	29	10.6
Tianjin	15	5.5	Teacher	22	8.0
Shanxi	11	4.0	Others	16	5.8
Others	68	29.8	Unemployed	4	1.5
Attraction visiting			Soldier	2	0.7
Shichahai Park	161	58.8	Farmer	1	0.4
Tongzhou Park	113	41.2			

The reliability of the cognitive image and affective image constructs was measured using Cronbach's alpha coefficient as shown in Table 4. The Cronbach's alpha coefficient of all items is greater than 0.8, which indicates that the data have good reliability [36].

Table 4. Reliability and validity of constructs.

	No. of Items	Cronbach's α	F	p
Cognitive destination image	21	0.799	109.216	0.000
Affective destination image	4	0.658	264.228	0.000
All variables	25	0.827	115.527	0.000

4. Results

4.1. Qualitative Results

A three-level coding system was developed. There are 10 main themes, 23 sub-themes, and 105 original codes. The three-level categorization is shown in Table 5 and the frequency of each is given in Appendix A.

From the above results, the important themes of the perceived destination image on the Grand Canal were cultural resources (53.03%), geographic space (10.86%), tourism activities (9. 60%), affective image (7.57%), natural resources (6.06%), and time span (5.81%). Four affective image themes were identified: pleasure/exciting, relaxation/well-being, pride/impressive of the heritage, and natural/cultural wonder. Most of the interviewees identified 'the Grand Canal's importance for Chinese people', and expressed feelings of 'national pride'; they 'admired the wisdom of the ancient labourers', and felt it is a 'miraculous' engineering feat; they expressed their feeling for the 'glamorous cultural heritage'; mentioned the benefits of visiting the Grand Canal on their 'physical and mental health', especially benefits such as 'leisure', 'relaxation' and 'making friends'; also, some interviewees mentioned the feeling of 'pleasure' and 'having an exciting time' during their visits.

The content analysis results indicate the Grand Canal has both a cognitive image and an affective image. However, most respondents knew few specific facts about the Grand Canal. Furthermore, compared with previous literature studying general tourism and leisure destination, it shows that the PDI of linear cultural heritage sites have characteristics of large spans in time and geographic space, which is different from that of traditional cultural heritage. The PDI for the main themes probed in qualitative research represents the merits of linear cultural heritage as a special type of tourism destination.

Table 5. The three levels of themes.

Main Themes	Sub-Themes	Codes	Frequency (%)	Total
Cultural recourses	Cultural relics	Yongji Qu, Tongji Qu, Han Gou, Huaian He, the Summer Palace, famous scenic spot, ruins, Artificial River, enormous projects, historical heritage, Jishui Tan	21 (5.3)	9.35%
	Book	History books, geography books, pyohaerok	3 (0.76)	
	Local Products	Silk, boats	2 (0.51)	
	Folk custom	Manners and customs	9 (2.27)	
	Architecture	The bridges, the ancient buildings	2 (0.51)	
Natural resources	Scenery	Beautiful scenery, the scenery along the river	20 (5.05)	6.06%
	Climate	Rain, cool	2 (0.51)	
	Creature	Rich with fish	1 (0.25)	
	Rivers and lakes	Little water in Beijing	1 (0.25)	
Geographic character	Vision	No obstructions, large, length, grandeur, shock	44 (11.11)	38.1%
	Place along the canal	Beijing, Hangzhou, Jiangnan, Tongzhou, Yangzhou, Suzhou	49 (12.37)	
	Historical activities and culture	Grain transporting/ transporting sand, China's South to North water diversion project, irrigation, north–south economy, south–north exchanges, transport, the Silk Roads	58 (14.65)	
Long History		Long history and long time	23 (5.81)	22.5%
	Celebrities	Sui Yang Di, Qian Long, Kang Xi, Qin Shi Huang (Emperor)	34 (8.59)	
	Historical activities and culture	Understanding the history and culture, Sui Dynasty, Tang Dynasty, hard labour, the building of the canal, guelder rose	32 (8.08)	
Social environment	Atmosphere	Land of Fish and Rice, prosperity, tranquillity, comfort, water town	13 (3.28)	3.28%
Ecological environment		Clean, original ecology without pollution, green vegetation	10 (2.53)	2.53%
Tourism environment	Leisure	Not monotonous, interactive, quiet	3 (0.76)	0.76%
Tourism activity	Entertainment	Boating, rafting, light show, music, navigation, hiking, cycling, towing	27 (6.81)	9.6%
	Shopping	Commercial street, there are not too many stores	2 (0.51)	
	Exhibition facilities	History museum	1 (0.25)	
	Recreational facilities	The trail, the fountain	3 (0.76)	
	Nightlife	Nocturne	2 (0.51)	
	Food	Delicious steamed stuffed bun, boat dishes, special snacks	3 (0.76)	
Tourism information		Good publicity	1 (0.25)	0.25%
Affective image	Pleasure/Exciting	Enjoy, pleased, exciting time	3 (0.76)	7.58%
	Relaxation/ Well-Being	Leisure, relax, make friends, benefit, well-being	6 (1.52)	
	Pride/Impressive of the heritage	Greatness of the people; national pride, well-known; hardworking, easy life, profoundly meaningful	14 (3.54)	
	Natural/Cultural wonder	Highly praise; miraculous, glamorous	7 (1.77)	
Total			396 (100)	1

4.2. Quantitative Results

4.2.1. PDI Results

Overall, Shichahai Park has the same mean value of cognitive (CDI) and affective destination image (ADI) (M = 3.59), while Tongzhou Canal Park has a higher ADI (M = 3.65) than its CDI (M = 3.43). When comparing these two sites, Shichahai Park has a higher mean value on its CDI while Tongzhou Canal Park has a higher mean value on its ADI. In the overall PDI system of the Grand Canal, both sites present an image of good environment and natural resource attributes, while they are both less associated with the feature of 'cultural resources' and 'time and spatial span'.

Cognitive Destination Image. Shichahai Park has a stronger image in the category of good environment (M = 3.99), natural resources (M = 3.77), and tourism activity (M = 3.75). The means of category on cultural resources (M = 3.24) and time and spatial span (M = 3.32) are low. Tongzhou Canal Park has a similar image category on environment (M = 4.01) and natural resources (M = 3.77), but its tourism activity (M = 2.70) and tourism information (M = 3.10) are low.

As for the specific measurement items, for Shichahai Park, natural scenery (M = 4.19), leisure atmosphere (M = 4.18), and colourful nightlife (M = 4.37) are the highest CDI items. The highest CDI items of Tongzhou Canal Park include natural scenery (M = 4.25), water quality (M = 4.41), spatial vision (M = 4.02), and leisure atmosphere (M = 4.07).

Affective Destination Image. The result shows that the overall affective destination images of both parks are high, with Tongzhou Canal Park (M = 3.65) having a slightly stronger ADI than Shichahai Park (M = 3.59). Both sites have the highest mean value for the item relaxation/well-being (SCH = 4.12; TZ = 4.15), followed by the item pleasure/exciting (SCH = 3.95; TZ = 3.91). This indicates that both Shichahai Park and Tongzhou Canal Park are destinations for relaxation and wellbeing, as well as places for Chinese visitors seeking pleasure and an exciting life.

A *t*-test was further applied to test the hypothesis by identifying the significant differences between the two attractions. The two attractions' samples both matched the normal distribution and based on Levene's homogeneity test of variance, the independent sample's *t*-test results of the PDI are as below (Table 6).

Table 6. *T*-test of PDI between Shichahai Park and Tongzhou Canal Park.

	Attractions	Mean	S.D.	Variance		*t*-Test Results	
				F	Sig.	*t*	Sig.
Cognitive Destination Image		3.59/3.43					
A. Cultural Resources		3.24/3.18					
A1 Cultural relic sites	SCH/TZ	3.50/3.51	0.672/0.733	1.152	0.284	−0.191	0.848
A2 Local specialties	SCH/TZ	2.85/2.46	0.868/0.768	0.055	0.815	3.845	0.000 *
A3 Local customs	SCH/TZ	3.24/3.10	0.720/0.834	0.227	0.634	1.469	0.143
A4 Architectures	SCH/TZ	3.37/3.65	0.739/0.767	0.016	0.898	−3.035	0.003 *
B. Time and Spatial Span		3.32/3.34					
B1 Historical celebrities	SCH/TZ	2.84/2.47	0.818/0.955	10.515	0.001	3.397	0.001 *
B2 Historical events and culture	SCH/TZ	3.30/3.53	0.915/0.825	7.336	0.007	−2.139	0.033 *
B3 Spatial vision	SCH/TZ	3.80/4.02	0.590/0.481	15.508	0.000	−3.335	0.001 *
C. Natural Resources		3.77/3.99					
C1 Natural scenery	SCH/TZ	4.19/4.25	0.654/0.560	0.393	0.531	−0.812	0.418
C2 Flora and fauna	SCH/TZ	3.30/3.42	0.633/0.666	1.719	0.191	−1.518	0.130
C3 Climate	SCH/TZ	3.64/3.88	0.648/0.629	6.980	0.009	−3.026	0.003 *
C4 Water quality	SCH/TZ	3.96/4.41	0.479/0.561	44.241	0.000	−6.943	0.000 *
D. Environment		3.99/4.01					
D1 Local atmosphere	SCH/TZ	3.93/3.98	0.489/0.551	0.108	0.743	−0.801	0.424
D2 Ecological environment	SCH/TZ	3.87/3.97	0.538/0.452	6.614	0.011	−1.730	0.085 *
D3 Leisure atmosphere	SCH/TZ	4.18/4.07	0.724/0.546	10.649	0.001	1.424	0.156
E. Tourism Activity		3.75/2.70					
E1 Entertainment activities	SCH/TZ	3.57/3.03	0.677/1.030	26.611	0.000	4.924	0.000 *
E2 Tourist shopping	SCH/TZ	3.75/2.12	0.635/0.753	0.025	0.874	19.360	0.000 *
E3 Heritage exhibition	SCH/TZ	3.21/2.55	0.675/0.802	8.440	0.004	7.180	0.000 *
E4 Leisure facilities	SCH/TZ	3.82/3.68	0.569/0.685	19.308	0.000	1.764	0.079
E5 Colourful nightlife	SCH/TZ	4.37/2.35	0.886/0.729	4.817	0.029	20.713	0.000 *
E6 Local food	SCH/TZ	3.78/2.46	0.599/0.732	13.229	0.000	15.835	0.000 *
F. Tourism Information		3.45/3.10					
F1 Promotion for the attraction	SCH/TZ	3.45/3.10	0.670/0.694	7.708	0.006	4.167	0.000 *
Affective Destination Image		3.59/3.65					
G1 Pleasure/Exciting	SCH/TZ	3.95/3.91	0.458/0.714	32.247	0.000	0.509	0.612
G2 Relaxation/Well-Being	SCH/TZ	4.12/4.15	0.517/0.538	1.208	0.273	−0.503	0.616
G3 Pride/Impressive of the heritage	SCH/TZ	3.12/3.33	0.479/0.850	49.195	0.000	−2.369	0.019 *
G4 Nature/Culture shocking	SCH/TZ	3.17/3.19	0.583/0.766	6.782	0.010	−0.316	0.753

* *t*-test is significant at the 0.05 level (2-tailed).

4.2.2. *T*-Test Results

A *t*-test of results for the two destinations shows that the most significant difference on CDI is in the category of tourism activities. There are three items out of five whose *t* values are above 15, indicating that Shichahai Park has much better tourism activities, including night life (t = 20.71), shopping (t = 19.36), and local food (t = 15.84). The item of heritage exhibition (t = 7.18) in the tourism activity category is also different between the two sites. The water quality (t = 6.94) item is also different; tourists feel that Tongzhou Canal Park has better water quality than Shichahai Park.

Furthermore, the results showed that the two sites have similar ADI means. Only the pride/impressiveness of the heritage (t = −2.369 p = 0.019) is significantly different, while the other three items, pleasure/exciting, relaxation/wellbeing, and nature/culture shocking have a t value less than one. Thus, tourists feel that Shichahai Park has a more impressive image of heritage features and could more likely raise their feelings of pride. The research hypothesis was confirmed with the above analysis of the results.

5. Discussion and Implications

The qualitative research indicates the Grand Canal's cognitive destination image includes 'beauty of natural scenery', 'water ecology of the canal', 'cultural and historical stories', and especially the strong perception of 'a large geospatial and time span'. The Grand Canal's affective destination image includes 'pride of the heritage' and 'nature/culture shocking'.

A *t*-test was adopted based on the developed hypothesis, and the results showed that there existed significant differences between the two research sites in terms of CDI, such as tourism activities and water quality. Moreover, this study also compared the overall canal and site images to examine the perceived "fit". In general, the tourists had an abstract and vague cognitive image of the whole Grand Canal. Furthermore, as for the ADI, the results showed that there was a similar but relatively low affective image of the two attractions, indicating the gap from the Grand Canal's general ADI. This means there is work to be undertaken to improve each attractions' CDI and ADI to match that of the Grand Canal.

5.1. Theoretical Implication

This paper has analysed the commonalities and differences between the overall PDI of the Grand Canal and the two destination sites in a linear heritage destination. It explored the cognitive category structure of the Grand Canal and provided a reference for the PDI measurement of cultural heritage attractions. Considering the existing literature on PDI are mainly on single heritage sites, this paper proposes a new perspective by focusing on the PDI of linear destination image.

The goal of PDI research is to do the positioning in the visitor's mind as occupying a unique and desirable market, hence the imagery used to promote the destination has to offer relevant unique added values [37]. According to the results, in the overall image measurement, the long linearity on the spatial–temporal characteristics of the Grand Canal emerged, which generated strong cultural attraction. However, the place images of the two sites showed the distance from the overall image. In this current study, the promotion on perceptive image and the PDI fit of the Grand Canal is suggested, so that the shared core value could better help in coordinating and unifying the destination image [38], as well as establishing benign competition and trans-regional cooperation.

This study has examined the PDI based on the qualitative and quantitative mixed research method. The PDI advantage of the Grand Canal is obtained through image building, which emphasizes specific benefits and contributes to an overall impression of one destination's superiority. Studies further support the view that the PDI is central to the evaluation of a destination. In the absence of existing empirical evidence analysing the determinants of a destination's perceived positive image, this work proposes an empirical study aimed at developing and validating a model for defining such factors.

It is suggested that methodologies in measuring destination image can influence the image(s) they are measuring [15]. Therefore, researchers might define the nature of the data through not only the data collection techniques, but also the data preparation and analysis procedures they use [15]. The experiential nature of the linear heritage's PDI remains relatively unexplored and there are few measurements of the linear heritage's PDI. After all, it is important to examine the linear heritage's PDI from the ground up as it will contribute to our understanding of how linear heritage can provide featured intangible experiential qualities for tourists through facilitating feelings, emotions, cognition, knowledge, and beneficial experiences.

5.2. Management Implications

5.2.1. The Grand Canal PDI Fit

To develop the potential role of the Grand Canal in stimulating heritage tourism in China, destination managers must consider how the 'time and spatial span' feature of the canal can be highlighted in the attraction sites along the canal. This could provide an anchor for the preservation and interpretation of the cultural heritage route, through emphasising the historical celebrities and events associated with each site. By analysing the primary and secondary nodes, managers could focus on market clusters' destination images to develop destination marketing and tourism experience design. Here an incremental development approach is proposed to preserve the integrity of the canal and its culture within a landscape setting. Furthermore, improving the PDI fit requires better associating the Grand Canal image with each site's image so that visitors evaluate the sites based on the overall image of the Grand Canal. The image of the outstanding cultural heritage of the Grand Canal can be transferred to local attractions to improve their cognitive and affective image.

Meanwhile, the abstract and vague overall image of the Grand Canal can be further enhanced and clarified through better association with its site, establishing and strengthening its image advantages, as well as highlighting the characteristics and the experience zone. The in-depth interviews indicate that respondents' impressions of the Grand Canal were positive but relatively abstract, as specific historical or geographical details were recalled only vaguely. Previous research has indicated that when pre-travel perceptions of a destination were realized during travel, positive post-travel behavioural intentions are likely [39–41]. Consequently, to further improve the authenticity and integrity of the Grand Canal heritage, there is a need to enhance each attraction's overall connection with the Grand Canal to improve the individual destination's competitiveness, tourism quality, and in-depth tourism experience.

5.2.2. Management Strategy of the Grand Canal's PDI Fit

On the strategy level, the Grand Canal can provide its PDI as an umbrella under which its individual sites operate to fit it. With this strategy, the attractions of the Grand Canal could improve the interdependence of its various sites, enhance collaboration with complementary partners, and provide signalling benefits as a way to maximize synergy. On the one hand, in the regional tourism market, it is believed that both the mature and emerging new destinations could compete through their individual features under the umbrella of the Grand Canal, which forms alternatives for destination image. On the other hand, there is also the possibility of complementary relationships in certain specific regional markets. Thus, it will be worth fitting the overall PDI, while at the same time, adding differentiated sub-PDI groupings and connections between the attractions to implement a cooperation strategy. At the same time, the process of creating and/or modifying the fit strategy should be developed at the local level and must be effective by sharing with those who are intending to implement it.

It is important to utilize the 'halo effect' of the Grand Canal to establish its core value. Previous research has found that extensions of core value enjoy a more positive attitude from the market [42,43]. The main reason lies in the fact that these extensions have a higher perceived quality, positive associations derived from the original image, and more image awareness and familiarity. This enables destinations to launch tourism products under the same PDI to get benefits from the transfer of these positive associations and quality image. Consequently, with the PDI of the Grand Canal, when tourists realize the attractions are part of the Grand Canal, the Canal's image will impact on consumer evaluations of these attractions and create a 'halo effect', through which consumers infer product attributes [44]. In this way, these tourism attractions will connect with stereotypical perceptions about the Grand Canal that are used as short-cuts for information processing and heuristic consumer decision, especially for visitors unfamiliar with the attractions.

The importance of competitiveness for destinations has been addressed by previous research. Linear heritage has the advantage of carrying out universal values of sustainable development and educates tourists through unique experiences, highlighting its significance to mankind and the following generations. As an important factor impacting destination competitiveness, the PDI demonstrated in this paper provides in depth insight of important dimension on the linear heritage which tourists perceive, experience, digest, and identify in their minds. Suggestions to the destination marketing involving the improvement of the PDI include: (1) reflect the historical and cultural connotation of the linear cultural heritage through the attractions along Grand Canal; (2) when implementing management tactics, in addition to highlighting the features of the attraction itself, emphasize that these attractions are parts of the linear heritage; (3) enrich and extend the experience of the Grand Canal's culture and historical heritage in the attractions. Consequently, this study provides empirical evidence for destination management practitioners to identify experiential benefits to be enhanced so that they could promote and provide an image to tourists to positively influence their experiences to cater to their in-depth needs.

6. Conclusions

This study has several limitations. First, we only focus on one linear heritage destination, namely the Beijing-Hangzhou Grand Canal in China and this study employed data collection in the Beijing area, so the sample may not reflect the entire population of visitors to the Grand Canal. Therefore, future research replicating this study with random sampling methods in other tourism destinations would increase our understanding of this important research concept. If possible, further research with more data in each of the two research sites would be better to further improve data validity and reliability.

Second, this study applied a question framework proposed by Echtner and Ritchie [20] on the components of destination image. Even though the findings verified the use of this research framework, it may not fully represent the CDI and ADI associated with certain destinations. Furthermore, there is a great variety of contexts in which culture has been found to influence tourist behaviour. As such, sourest evaluations of destination image may differ across countries. Similarly, feedback effects on PDI fit could be different according to the destination. As a result, more empirical studies in different cultural background and context are needed to testify and complete the research finding.

Author Contributions: Conceptualization, S.J. and N.S.; methodology, S.J. and S.X.; software, S.X. and S.J.; validation, L.T.; formal analysis, S.J., S.X. and N.S.; investigation, S.J. and L.T.; resources, L.T.; data curation, L.T.; writing—original draft preparation, S.J. and S.X.; writing—review and editing, S.J. and N.S.; visualization, Y.Q.; supervision, N.S.; project administration, L.T.; All authors have read and agreed to the published version of the manuscript.

Funding: This work was supported by the Beijing Social Science Key Fund "Capacity Construction and Improvement Path of Beijing Suburb Tourism Community": [Grant Number 19GLA004].

Institutional Review Board Statement: Ethical review and approval were waived for this study because the Ethical Review Board of Capital Normal University does not require the full review process for the field work and data collection from adults who have adequate decision-making capacity to agree to participate.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Acknowledgments: We would like to thank Yifan Huang for his assistance with the data analysis.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. The frequency of content analysis codes.

Range	Image Description	Frequency
1	Sui Yang Di (Guang Yang—Emperor Yang of Sui)	30
2	Hangzhou	23
3	Long history	22
4	Boating	20
5	Length	18
6	Transportation, history and culture	16
7	Beijing	15
8	Large scale	13
9	Sui dynasty, artificial river, the scenery along the river	11
10	Grandeur, transportation	10
11	Beautiful scenery, manners, and customs	9
12	Prosperity	8
13	Greatness, north–south economy	7
14	South–north exchanges, clean	6
15	China's South to North water diversion project, Yangzhou	5
16	Suzhou, start construction, travel (emperor), national pride	4
17	Well-being, convenience, easy life, construction of the canal, the original ecology, commercial street, Green vegetation	3
18	Jiangnan, enormous projects, irrigation, Chinese Snowball Viburnum, nocturne, profoundly meaningful, shocking, well-known, water, scenic spot, the bridges, light show, be quiet	2
19	Yongji Qu, Tongji Qu, Han Gou, the Summer Palace, Kang xi, Qian long, Qin Shi Huang, Pyohaerok, history books, geography books, Huaian He, beauties, rain, the building of the canal, delicious steamed stuffed bun, the silk, Tang dynasty, the boat, Land of Fish and Rice, miraculous, pleased, wonder, glamorous, hardworking, long time, exciting time, the Silk Roads, normal, make friends, declining, cool, historical heritage, rich with fish, rafting, the ancient buildings, water town, good publicity, interaction, history museum, boat dishes, special snacks, no obstructions, music, the fountain, navigation, hiking, cycling, towing, enjoy	1

References

1. Yilmaz, Y.; Yilmaz, Y. Pre- and post-trip antecedents of destination image for non-visitors and visitors: A literature review. *Inter J. Tour Res.* **2020**, *22*, 518–535. [CrossRef]
2. Shi, K.; Zhang, Y.; Liu, Y. Study on Tourists' Perception of the Grand Canal Cultural Heritage Based on Network Travels. In Proceedings of the IEEE Fifth International Conference on Big Data Computing Service and Applications (BigDataService), Newark, CA, USA, 4–9 April 2019; pp. 79–82.
3. Yang, Y.; Sha, C.; Su, W.; Donkor, E.K.N. Research on online destination image of Zhenjiang section of the Grand Canal based on network content analysis. *Sustainability* **2022**, *14*, 2731. [CrossRef]
4. Moulin, C.; Boniface, P. Routeing Heritage for Tourism: Making heritage and cultural tourism networks for socio-economic development. *Int. J. Herit. Stud.* **2001**, *7*, 237–248. [CrossRef]
5. Telfer, D.J. Strategic alliances along the Niagara wine route. *Tour. Manag.* **2001**, *22*, 21–30. [CrossRef]
6. Prideaux, B. Creating rural heritage visitor attractions—The Queensland Heritage Trails project. *Int. J. Tour. Res.* **2002**, *4*, 313–323. [CrossRef]
7. Xu, S.; Leung, Y.; Barbieri, C. Characterizing themed touring routes: A geospatial and tourism evaluation of wine trails. *Tour. Plan. Dev.* **2016**, *13*, 168–184. [CrossRef]
8. Pérez Guilarte, Y.; Lois González, R.C. Sustainability and visitor management in tourist historic cities: The case of Santiago de Compostela, Spain. *J. Herit. Tour.* **2018**, *13*, 489–505. [CrossRef]
9. Marković, S.S.; Perić, M.R.; Mijatov, M.B.; Dragin, A.S.; Doljak, D.L. Attitudes of the local population in border municipalities on development of sport-event tourism. *J. Hosp. Tour. Res.* **2021**, *45*, 1282–1302. [CrossRef]
10. Mijatov Ladičorbić, M.; Dragin, A.; Stojanović, V.; Lazić, L.; Janjušević, B.; Carmer, A.; Hansen, B. Do We Want to Be Involved? Tourism Promotion and the Industrial Heritage of Germans in Vojvodina. *Sociol. Prost.* **2023**, *61*, 79–104.

11. Đerčan, B.; Bubalo Živković, M.; Gatarić, D.; Lukić, T.; Dragin, A.; Kalenjuk Pivarski, B.; Lutovac, M.; Kuzman, B.; Puškarić, A.; Banjac, M. Experienced Well-Being in the Rural Areas of the Srem Region (Serbia): Perceptions of the Local Community. *Sustainability* **2021**, *14*, 248. [CrossRef]
12. MacKay, K.J.; Fesenmaier, D.R. Pictorial element of destination in image formation. *Ann. Tour. Res.* **1997**, *24*, 537–565. [CrossRef]
13. Botha, C.; Crompton, J.L.; Kim, S. Developing a revised competitive position for Sun/Lost city, South Africa. *J. Travel Res.* **1999**, *37*, 341–352. [CrossRef]
14. Bruwer, J.; Pratt, M.A.; Saliba, A.; Hirche, M. Regional destination image perception of tourists within a winescape context. *Curr. Issues Tour.* **2017**, *20*, 157–177. [CrossRef]
15. Tasci, A.D. Assessment of factors influencing destination image using a multiple regression model. *Tour. Rev.* **2007**, *62*, 23–30. [CrossRef]
16. Jeong, Y.; Kim, S. A study of event quality, destination image, perceived value, tourist satisfaction, and destination loyalty among sport tourists. *Asia Pac. J. Market. Logist.* **2020**, *32*, 940–960. [CrossRef]
17. Baloglu, S.; McCleary, K.W. A model of destination image formation. *Ann. Tour. Res.* **1999**, *26*, 868–897. [CrossRef]
18. Hosany, S.; Ekinci, Y.; Uysal, M. Destination image and destination personality: An application of branding theories to tourism places. *J. Bus. Res.* **2006**, *59*, 638–642. [CrossRef]
19. Shahab, M.H.; Ghazali, E.; Mohtar, M. The role of elaboration likelihood model in consumer behaviour research and its extension to new technologies: A review and future research agenda. *Int. J. Consum. Stud.* **2021**, *45*, 664–689. [CrossRef]
20. Echtner, C.M.; Ritchie, J.B. The measurement of destination image: An empirical assessment. *J. Travel Res.* **1993**, *31*, 3–13. [CrossRef]
21. Zhang, X.; Zhang, C.; Li, Y.; Xu, Z.; Huang, Z. Hierarchical fusion process of destination image formation: Targeting on urban tourism destination. *Sustainability* **2021**, *13*, 11805. [CrossRef]
22. Carballo, R.R.; León, C.J. The influence of artistically recreated nature on the image of tourist destinations: Lanzarote's art, cultural and tourism visitor centres and their links to sustainable tourism marketing. *J. Sustain. Tour.* **2018**, *26*, 192–204. [CrossRef]
23. Jenkins, O.H. Understanding and measuring tourist destination images. *Int. J. Tour. Res.* **1999**, *1*, 1–15. [CrossRef]
24. Quoquab, F.; Mohammad, J.; Mohd Sobri, A.M. Psychological engagement drives brand loyalty: Evidence from Malaysian ecotourism destinations. *J. Prod. Brand. Manag.* **2021**, *30*, 132–147. [CrossRef]
25. Cheng, M.; Wong, I.A.; Liu, M.T. A cross-cultural comparison of world heritage site image: The case of Hue. *Tour. Anal.* **2013**, *18*, 707–712. [CrossRef]
26. Zhu, D.; Wang, J.; Wang, M. Sustainable tourism destination image projection: The inter-influences between DMOs and tourists. *Sustainability* **2022**, *14*, 3073. [CrossRef]
27. Loken, B.; Joiner, C.; Houston, M.J. Leveraging a brand through brand extension: A review of two decades of research. In *Brands and Brand Management*; Psychology Press: New York, NY, USA, 2023; pp. 11–42.
28. DelVecchio, D.; Smith, D.C. Brand-extension price premiums: The effects of perceived fit and extension product category risk. *J. Acad. Mark. Sci.* **2005**, *33*, 184–196. [CrossRef]
29. White, D.R.; Harary, F. The cohesiveness of blocks in social networks: Node connectivity and conditional density. *Sociol. Methodol.* **2001**, *31*, 305–359. [CrossRef]
30. Chen, X. Assessment of Destination Brand Associations: An Application of Associative Network Theory and Network Analysis Methods. Ph.D. Thesis, Clemson University, Clemson, SC, USA, 2010.
31. Orbaşli, A.; Woodward, S. A railway 'route' as a linear heritage attraction: The Hijaz Railway in the Kingdom of Saudi Arabia. *J. Herit. Tour.* **2008**, *3*, 159–175. [CrossRef]
32. Krippendorff, K. *Content Analysis: An Introduction to Its Methodology*; Sage Publications: New York, NY, USA, 2018.
33. Momeni, K.; Janati, A.; Imani, A.; Khodayari-Zarnaq, R. Barriers to the development of medical tourism in East Azerbaijan province, Iran: A qualitative study. *Tour. Manag.* **2018**, *69*, 307–316. [CrossRef]
34. Scott, C.; Medaugh, M. Axial coding. In *The International Encyclopedia of Communication Research Methods*; Matthes, J., Davis, C., Potter, R., Eds.; Wiley Publishing: Hoboken, NJ, USA, 2017; pp. 1–2.
35. Campbell, J.L.; Quincy, C.; Osserman, J.; Pedersen, O.K. Coding in-depth semistructured interviews: Problems of unitization and intercoder reliability and agreement. *Sociol. Method. Res.* **2013**, *42*, 294–320. [CrossRef]
36. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. *Multivariate Data Analysis: Pearson New International Edition*; Pearson Education: Upper Saddle River, NJ, USA, 2014; p. 1.
37. Laws, E.; Scott, N.; Parfitt, N. Synergies in destination image management: A case study and conceptualisation. *Int. J. Tour. Res.* **2002**, *4*, 39–55. [CrossRef]
38. Giannopoulos, A.; Piha, L.; Skourtis, G. Destination branding and co-creation: A service ecosystem perspective. *J. Prod. Brand. Manag.* **2021**, *30*, 148–166. [CrossRef]
39. Gannon, M.J.; Baxter, I.W.; Collinson, E.; Curran, R.; Farrington, T.; Glasgow, S.; Godsman, E.M.; Gori, K.; Jack, G.R.; Lochrie, S. Travelling for Umrah: Destination attributes, destination image, and post-travel intentions. *Serv. Ind. J.* **2017**, *37*, 448–465. [CrossRef]
40. Lee, C.; Lee, Y.; Wicks, B.E. Segmentation of festival motivation by nationality and satisfaction. *Tour. Manag.* **2004**, *25*, 61–70. [CrossRef]
41. Agapito, D. The senses in tourism design: A bibliometric review. *Ann. Tour. Res.* **2020**, *83*, 102934. [CrossRef]

42. Amaro, S.; Barroco, C.; Antunes, J. Exploring the antecedents and outcomes of destination brand love. *J. Prod. Brand. Manag.* **2020**, *30*, 433–448. [CrossRef]
43. Tran, P.K.T.; Nguyen, V.K.; Tran, V.T. Brand equity and customer satisfaction: A comparative analysis of international and domestic tourists in Vietnam. *J. Prod. Brand. Manag.* **2021**, *30*, 180–194. [CrossRef]
44. Klein, J.; Dawar, N. Corporate social responsibility and consumers' attributions and brand evaluations in a product–harm crisis. *Int. J. Res. Mark.* **2004**, *21*, 203–217. [CrossRef]